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ABSTRACT

This report includes demographic information about the eight county field test area, socioeconomic information about the parents of Early Childhood Education (ECE) Program children; and information on the number of staff and developmental cost of the ECE field study (1968-69 and 1969-70). A summary of data results is given. (Author/AJ)

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# DEMOGRAPHIC AND SOCIO-ECONOMIC DATA OF THE BECKLEY, WEST VIRGINIA AREA AND 1968-1970 DEVELOPMENTAL COSTS OF THE EARLY CHILDHOOD EDUCATION FIELD STUDY

Technical Report No. 1

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Division of Research and Evaluation
Appalachia Educational Laboratory
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# DEMOGRAPHIC AND SOCIO-ECONOMIC DATA OF THE BECKLEY, WEST VIRGINIA AREA AND 1968-1970 DEVELOPMENTAL COSTS OF THE EARLY CHILDHOOD EDUCATION FIELD STUDY*

The purpose of this report is threefold. First, certain demographic information about the Beckley, West Virginia area is presented as background information about the site in which the Early Childhood Education field study was conducted. Also included for comparison is some demographic information about the state of West Virginia. A second purpose is to present some socio-economic data about the parents of children who were participants in the Early Childhood Education field study during 1969 and 1970. A third purpose is to report the developmental cost of the Early Childhood Education field study during the 1968-69 and 1969-70 school years. These cost figures are included because the projected cost of the ECE program for a population of 25,000 children as reported in the main body of the 1969-70 ECE evaluation report is based on these costs.

## Demographic Information About the Eight County Field Test Area

The ECE instructional television program was broadcast from the Oak Hill, West Virginia television station to the surrounding eight county area. The eight counties falling within this area were: Fayette, McDowell, Mercer, Monroe, Nicholas, Raleigh, Summers and Wyoming. The children who received the different components of the ECE program and participated in the evaluation of the program lived in the counties of Fayette, Mercer, Raleigh, and Summers.

According to the U.S. Census Bureau, the 1970 population of West Virginia was 1,744,237 which was a decrease of 6.2 percent from the 1960 population. As indicated in Table 1 -1, the population in the eight counties ranged from

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*This report was prepared by Dr. Charles L. Bertram of the AEL Research and Evaluation Division.

70,080 in Raleigh County to 11,272 in Monroe County.

The ECE program was designed for areas which are sparsely populated Therefore, the urban-rural composition of the region is of concern. Although very specific definitions are used,[1] the U. S. Census Bureau generally considers an urban resident to be one who lives in a town of 2,500 or greater population. Rural residents are obviously those living outside the urban areas. By the U. S. Census Bureau standards, West Virginia was 61.0 percent rural in April of 1970. The county with the greatest percentage of rural residents was Monroe (100 percent) and the county with the least percentage of rural residents was Mercer County with a 63.3 percent rural population.

The effective buying income per household in 1968 was $6,950 for West Virginia. The range for the eight county area was from $5,847 in Monroe County to $6,696 per family in Fayette County. The 1968 per capita income in West Virginia was $2,470. The range of per capita income averages within the eight county area was from $1,788 in Monroe County to $2,605 in Raleigh County.

According to the data presented in Table 1 -1, 30.6 percent of the adults of age 25 and over in West Virginia had completed high school in 1968. The average for all counties within the eight county area (except Mercer) was below the state average, and the range within the eight counties was from 19.3 percent in Wyoming County to 31.6 percent in Mercer County. According to the U. S. Census Bureau, 55 percent of the adults 25 years of age or older in the nation have completed high school. The number of teachers and the number of administrators in each county of the eight county area are also listed in Table 1 -1.

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[1] 1970 Census of Population - West Virginia (Advance Report), Bureau of the Census, Washington, D.C. December, 1970.

TABLE 1 -1

DEMOGRAPHIC INFORMATION ABOUT WEST VIRGINIA AND EIGHT COUNTY ECE FIELD TEST AREA

| | W. Va. | Fayette | McDowell | Mercer | Monroe | Nicholas | Raleigh | Summers | Wyoming |
|---|---|---|---|---|---|---|---|---|---|
| Total Population* | 1,744,237 | 49,332 | 50,666 | 63,206 | 11,272 | 22,552 | 70,080 | 13,213 | 30,095 |
| Rural Population* | 1,064,746*** | 42,808 | 46,517 | 40,032 | 11,272 | 18,835 | 50,196 | 8,710 | 27,128 |
| Percent Rural | 61.0 | 86.8 | 91.8 | 63.3 | 100 | 83.5 | 71.6 | 65.9 | 90.1 |
| Percent Population change (1960-1970)* | -6.2 | -20.1 | -29 | -7.3 | -2.7 | -11.3 | -10 | -15.5 | -13.6 |
| Population per square mile* | 72 | 74 | 95 | 152 | 24 | 35 | 116 | 38 | 60 |
| Effective buying income per household (1968)* | average $6,950 | 6,696 | 5,931 | 6,364 | 5,847 | 5,869 | 6,056 | 6,074 | 6,562 |
| Per Capita Personal Income (1968)** | $2,470 | 2,419 | 2,078 | 1,995 | 1,788 | 2,123 | 2,605 | 2,194 | 2,012 |
| Adults age 25 and over completed high school (%) (1968)** | 30.6 | 21.4 | 19.8 | 31.6 | 25.9 | 21.1 | 26.4 | 22.2 | 19.3 |
| Number of Administrators, supervisors, etc. (1969-70) | | 73 | 77 | 81 | 15 | 36 | 100 | 23 | 57 |
| No.of teachers (1969-70) | | 605 | 600 | 550 | 85 | 210 | 735 | 115 | 365 |

*1970 Census of Population, Advance Report

**Ranking of the Counties, 1970, p. 28. West Virginia Education Association, April, 1970

***Urban residents live in area of 2,500 or greater population (U.S. Census Bureau), and rural live outside these urban areas.

Since the ECE program was designed for children of ages three, four and/or five, the number of children living in rural areas of those ages was estimated for each of the eight counties. The estimations are based upon a preliminary release of the 1970 U.S. Census data and will be very close to the actual count when it is completed.

According to Table 1 -2, as of April 1970 there were 54,470 children of ages three, four, and five living in the rural areas of West Virginia. This number was 61 percent of all the children of these ages within the state. Of that number, an estimated 17,593 were three years of age, 18,146 were four years of age, and 18,731 were five years of age. Of the eight counties McDowell had the greatest number of rural children of ages three, four and five (2,652), and Raleigh was a close second (2,526). The counties with the least number of rural children were Summers (380) and Monroe (511), the latter of which was considered 100 percent rural by the U.S. Census Bureau.

A previous study indicated that there were 0.80 families per child in West Virginia.[2] If the ECE program were used by all rural families in West Virginia, approximately 43,576 families would participate. In the eight county region, 10,274 rural families could have children in the ECE program.

## SOCIO-ECONOMIC INFORMATION ABOUT THE PARENTS OF ECE PROGRAM CHILDREN

A socio-economic survey of the parents of the children in the different ECE program treatment groups was conducted during the spring of 1970. The survey was very similar to that conducted by Hooper and Marshall[3] so that similarities between the ECE program parents and the cross section of Appalachian parents

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[2]Frank H. Hooper and William H. Marshall, The Initial Phase of a Preschool Development Project, Morgantown, West Virginia, P. Q-21.

[3]Op. Cit.

used by Hooper and Marshall might be identified. The two sets of parents were very similar, and comparisons on the numerous items will not be presented here. However, data from a few of the socio-economic survey items are presented in Table 1 -3 according to the different ECE treatment groups. The purpose of presenting these data is to reveal the general socio-economic background of the families involved in the ECE field study.

According to the U.S. Bureau of the Census, a rural area is any area which does not contain a concentration of population of 2,500 or more. Using this definition, about 84 percent of the package, 67 percent of the TV-HV, and 100 percent of the TV only groups lived in rural areas. According to Table 1 -3, 91 percent of the mothers and 88 percent of the fathers of children in the package group had completed the 12th grade in school. Within the TV-HV group, 85 percent of the mothers and 78 percent of the fathers had completed the 12th grade, compared with a completion rate of the TV only group of 93 percent for the mothers and 96 percent for the fathers.

An unusually large percentage of the parents owned a color television set. The percentages were 42 for the package group, 47 for the TV-HV group, and 36 for the TV only group. The parents were asked how much time their children spent viewing television during each week. The most frequent response for the package and TV group was 2-3 hours per day. The most frequent response for the TV only group was one hour per day (63 percent). The different categories of responses were weighted appropriately and a mean number of hours per day spent watching television by the children was determined. The mean for children in the package group was 3.14 hours per day and for the TV-HV group was 2.88 hours per day. The mean for the TV only group was 1.16 hours per day, or about one third of the time spent by the children who received the home visitor and/or the mobile classroom.

The average family income for parents of the package group children was

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$7,539, and for the parents of the TV-HV children, was $7,192. The TV only parents reported an average family income of $7,667, which was the highest of the three treatment groups. Unfortunately, the "average family income" just reported cannot be directly compared with the "effective buying income per household" reported in Table 1 -1.

TABLE 1 -2

NUMBER OF THREE, FOUR, AND FIVE YEAR OLD CHILDREN IN RURAL WEST VIRGINIA AND IN EIGHT COUNTY FIELD TEST AREA BY COUNTY

| Total Population* (all ages) | | Rural Population (all ages) | % Rural** | Estimated Rural*** of age 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|---|
| West Virginia Total | | | | | | | |
| 1,744,237 | | 1,064,746 | 61 | 17,593 | 18,146 | 18,731 | 54,470 |
| Eight County Field Test Area | | | | | | | |
| Fayette | 49,332 | 42,808 | 86 | 623 | 642 | 717 | 1,982 |
| McDowell | 50,666 | 46,517 | 91 | 858 | 885 | 909 | 2,652 |
| Mercer | 63,206 | 40,032 | 63 | 704 | 726 | 653 | 2,083 |
| Monroe | 11,272 | 11,272 | 100 | 163 | 168 | 180 | 511 |
| Nicholas | 22,552 | 18,835 | 83 | 346 | 357 | 375 | 1,078 |
| Raleigh | 70,080 | 50,196 | 71 | 840 | 867 | 819 | 2,526 |
| Summers | 13,213 | 8,710 | 65 | 119 | 123 | 138 | 380 |
| Wyoming | 30,095 | 27,128 | 90 | 540 | 557 | 534 | 1,631 |
| Total | 310,416 | 245,498 | 79 | 4,193 | 4,325 | 4,325 | 12,843 |

*1970 U. S. Census figures

**Rural is defined as not living in a town of 2,500 population or greater.

***Estimated from preliminary release of 1970 U.S. Census figures which indicated number of children in the 0-4-year-old age group (inclusive) and in the 5-6 year-old age group (inclusive). See "Interpolation of 1970 Census Data to Obtain Number of Three, Four, and Five Year Old Children Living in Rural Areas," a mimeograph paper by AEL.

TABLE 1 -3

DATA FOR SELECTED SOCIO-ECONOMIC
VARIABLES ACCORDING TO ECE TREATMENT GROUPS

| Variable | Package | | TV-HV | | TV-only | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Community Size | | | | | | |
| Less than 2,500 | 52 | 83.9 | 49 | 67.1 | 33 | 100 |
| 2,500-25,000 | 10 | 16.1 | 24 | 32.9 | 0 | |
| Percent Completed 12th Grade | | | | | | |
| Mother | 60 | 90.9 | 61 | 84.8 | 27 | 93.1 |
| Father | 54 | 87.7 | 52 | 77.5 | 24 | 96.0 |
| Color Television | 27 | 42.2 | 34 | 47.2 | 12 | 36.4 |
| Watch Television | | | | | | |
| Never | 1 | 1.5 | 0 | 0 | 1 | 1.5 |
| A few hours per week | 2 | 3.0 | 10 | 13.9 | 5 | 18.5 |
| One hour per day | 6 | 9.1 | 3 | 4.2 | 17 | 63.0 |
| 2-3 hours per day | 36 | 54.5 | 34 | 47.2 | 3 | 11.1 |
| 4-5 hours per day | 15 | 22.7 | 28 | 33.3 | 1 | 3.7 |
| 6-7 hours per day | 4 | 6.1 | 1 | 1.4 | | |
| 8 or more hours per day | 2 | 3.0 | 0 | | | |
| Approximate mean number of hours/day | 3.14 | | 2.88 | | 1.16 | |
| Family Income | $7,539 | | $7,192 | | $7,667 | |

## NUMBER OF STAFF AND DEVELOPMENTAL COST OF THE ECE FIELD STUDY (1968-69 AND 1969-70)

The ECE Program has in the past been reported as being comprised by three different components. The first component involves the production of curriculum materials, including television lessons which are broadcast daily from the Oak Hill, West Virginia station. The second component of the ECE Program has been that pertaining to home visitation by paraprofessionals on a one-a-week basis. The third component is associated with the mobile classroom, which the children also visit once each week. Staffing and program costs have been prorated over these three components according to the time and money associated with each. (In the 1969-70 ECE evaluation report, these same costs were prorated according to whether the activities were associated with production of materials in a central location, or whether the time and cost were associated with field activities.)

The staffing requirements for the three ECE components for both 1968-69 and 1969-70 are given in Table 1 -4. The program was being initiated during the 1968-69 school year, and not all listed positions were filled at the beginning of the year. During the first field test year, the equivalent of 3.5 professional personnel were associated with the production of materials and television lessons, and 5.0 professional personnel were used during the second year. Eight home visitors were required each year in order to visit the 300 children in the field test sample. If the children visit the mobile classroom once each week, one mobile classroom per 150 children is required. Therefore, one mobile classroom teacher and one aide was required to operate the facility for the 150 children who used it. The total professional personnel required for the field test was 8.67 during 1968-69 and 11.5 during 1969-70. Nine paraprofessionals and 3.5 support personnel were required each

year. In addition to the above, the ECE program director and one half of a secretary's time (considered administrative) was required each year.

The actual cost of the ECE program for field test operations during the 1968-69 and 1969-70 school years is listed in Table 1 -5. The costs were prorated according to the three components of the ECE program as were the personnel in the preceding table. Certain equipment (which might normally be considered capital outlay) was amortized over a five year period. Certain of the 1968-69 costs are estimates (e.g., travel) because the actual costs were not recorded according to program performance. In general, the television costs would remain about the same regardless of whether the program was produced for 150 children or 150,000 children, and the home visitation and mobile classroom costs must be examined item by item to determine which costs vary with the number of children to be served and which other costs are relatively stable. For example, the cost for home visitors will vary directly according to the number of children to be served, as well as the office rental, mobile classroom, and mobile classroom teachers costs. However, certain professional personnel such as an instructional monitor would not be required for each 150 children.

TABLE 1 -4

NUMBER OF ECE PERSONNEL BY COMPONENT REQUIRED FOR PROGRAM DEVELOPMENT 1968-69 AND 1969-70

| Program Component | Personnel Requirements | |
|---|---|---|
| Television | 1968-69 | 1969-70 |
| Curriculum Materials Coordinator | .50 | .33 |
| Production Manager | 1.00 | 1.00 |
| On Camera Teacher | 1.00 | 1.00 |
| Curriculum Specialist | - | .33 |
| Research Teacher | 1.00 | - |
| Creative Arts Specialist | - | 1.00 |
| Artist-Photographer | - | .50 |
| Instructional Monitor | - | .34 |
| Production Assistant (½ time) | .25 | .25 |
| Artist's Assistant | - | .50 |
| Secretaries | .67 | .67 |
| Consultant Time | 15 days | 3 days |
| Cooperating Agencies - Television Station<br>TV Production Studio | | |
| Total Professional | 3.50 | 5.00 |
| Total Clerical | .67 | .67 |
| Other Support | .25 | .25 |
| Home Visitation * | | |
| Curriculum Materials Coordinator | .25 | .33 |
| Curriculum Specialist | .33 | .34 |
| Instructional Monitor | - | .33 |
| Research Teacher | .50 | .50 |
| Field Activity Coordinator | .50 | .50 |
| Paraprofessional (Home Visitors) | 8.00 | 8.00 |
| Artist-Photographer | - | .25 |
| Production Assistant | .12 | .12 |
| Secretary | 1.17 | 1.17 |
| Consultant Time | 17 days | 8 days |
| Cooperating Agencies - Local Employment Agency<br>Local School Systems | | |
| Total Professional | 1.58 | 2.25 |
| Total Paraprofessional | 8.0 | 8.0 |
| Total Clerical | 1.17 | 1.17 |
| Other Support | .12 | .12 |

Table 1 -4 (Cont'd)

| | 1968-69 | 1969-70 |
|---|---|---|
| Mobile Classroom ** | | |
| Curriculum Materials Coordinator | .25 | .34 |
| Curriculum Specialist | .34 | .33 |
| Instructional Monitor | - | .33 |
| Research Teacher | .50 | .50 |
| Field Activity Coordinator | .50 | .50 |
| Mobile Classroom Teacher | 1.00 | 1.00 |
| Mobile Classroom Aide | 1.00 | 1.00 |
| Artist-Photographer | - | .25 |
| Secretary | 1.16 | 1.16 |
| Consultants | - | 5 days |
| Production Assistant | .13 | .13 |
| Total Professional | 3.59 | 4.25 |
| Total Paraprofessional | 1.00 | 1.00 |
| Total Clerical | 1.16 | 1.16 |
| Other Support | .13 | .13 |
| Total Professional (All three components) | 8.67 | 11.50 |
| Total Paraprofessional (All three components) | 9.00 | 9.00 |
| Total Clerical (All three components) | 3.00 | 3.00 |
| Other Support (All three components) | .50 | .50 |

*Personnel allocated for home visitation provides home visits for approximately 300 children.

**Personnel required for 150 children to visit the mobile classroom once each week.

TABLE 1 -5

DEVELOPMENTAL COSTS OF THE EARLY CHILDHOOD EDUCATION PROGRAM
DURING THE 1968-69 AND THE 1969-70 FIELD TEST YEARS

| Program Component | Item of Program Effort | Expenditures 1968-69 | Expenditures 1969-70 |
|---|---|---|---|
| Television | Professional Personnel | $77,950 | $62,087 |
| | Consultants | 1,500 | 342 |
| | Secretarial | 6,090 | 5,591 |
| | Production Studio | 23,000 | 26,840 |
| | Broadcast Station | 4,200 | 4,500 |
| | *Equipment | 2,888 | 3,174 |
| | Supplies | 17,500 | 11,029 |
| | Travel | 6,000 | 4,399 |
| | Miscellaneous | - | 149 |
| | Sub-Total | $139,128 | $118,111 |
| Home Visitation** | Professional Personnel | 12,845 | 24,612 |
| | Paraprofessional (Home Visitors) | 27,000 | 27,536 |
| | Consultants | 1,700 | 994 |
| | Secretarial | 3,320 | 6,921 |
| | Office (rent, utilities, etc.) | 2,300 | 3,297 |
| | Travel - Staff | 6,000 | 2,348 |
| | Travel - Home Visitors | | 5,903 |
| | Supplies | - | 2,916 |
| | Miscellaneous | | 369 |
| | Sub-Total | $53,165 | $74,896 |
| Mobile Classroom*** | Professional Personnel | 23,985 | 33,938 |
| | Paraprofessional (aide) | 3,375 | 3,731 |
| | Secretarial | 3,320 | 6,921 |
| | Consultants | - | 513 |
| | *Mobile Classroom | 4,066 | 4,066 |
| | *Power Connections | 300 | 300 |
| | Mobile Classroom Operation and Maintenance | 2,500 | 2,144 |
| | Power Supply | 400 | 452 |
| | Office (rent, utilities, etc.) | 2,300 | 2,910 |
| | Supplies | - | 859 |
| | Travel | 1,000 | 1,742 |
| | Miscellaneous | - | 36 |
| | Sub-Total | 41,246 | 57,612 |
| | Grand Total | $233,539 | $250,619 |

* Equipment is prorated over a five year period.

** The reported cost for Home Vistation provides general support for one team leader, eight home visitors, and approximately 300 children.

*** The reported cost for Mobile Classroom provides general support for one teacher, one aide, and approximately 150 children.

## IMPLICATIONS AND CONCLUSIONS

The following generalizations may be derived from the preceding demographic and socio-economic description.

1. The multi-county region in which the ECE program is being field tested is rural, has a per capita personal income at or below the state average of $2,470, and fewer of the adult population have completed high school than the state average of 30.6 percent.

2. Most of the children in the field test sample live in rural areas of less than 2,500 population concentration, and almost half of them own color television sets.

3. Children of ages threee, four, and five who received the total ECE program were reported to watch television more than three hours per day, while children who did not receive the home visitor or mobile classroom were reported to watch television slightly over one hour per day.

4. The ECE developmental costs during the 1969-70 school year were $250,619.